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# Racial Component Is Found in Lethal Breast Cancer

**By DENISE GRADY**

Young black women with breast cancer are more prone than whites or older blacks to develop a type of tumor with genetic traits that make it especially deadly and hard to treat, a study has found.

Among premenopausal black women with breast cancer, 39 percent had the more dangerous kind, called a "basal like" subtype, compared with only 14 percent of older black women and 16 percent of nonblack women of any age. Researchers are not sure why.

The study, being published today in The Journal of the American Medical Association, is the first to measure how common the different genetic subtypes of breast tumors are in American women, and to sort the subtypes by race. The authors said more research was needed to test their conclusions.

The finding has no immediate effect on treatment, because there is no treatment that specifically concentrates on basal-like cancer. But scientists are trying to create drugs that will zero in on it.

The study helps explain something that was already known: although breast cancer is less common in blacks than whites, when black women do develop the disease, they are more likely to die from it, especially if they are under 50. Among those younger women, the breast cancer death rate in blacks is 11 per 100,000, compared with only 6.3 in whites.

The new data about tumor types is not the whole story, researchers say, because some of the disparity may also result from a lack of access to health care among blacks or differences in nutrition, personal habits or environmental exposures.

The genetic discovery is "somewhat alarming," but also a "good thing," because it exposes details about the cancer that should help doctors identify specific drugs to fight it, said the study's main author, Dr. Lisa A. Carey, the medical director of the University of North Carolina-Lineberger breast center.

Several research groups including her own have already begun testing new drugs against this type of breast cancer, Dr. Carey said. The work involves finding drugs to block specific molecules that these tumors need to grow. If the trials succeed, new treatments could be available within a few years, perhaps even as soon as a year from now, she predicted.

These tumors are identified not by looking through a microscope, but by special tests that measure patterns of genetic activity.

"Things that to my eye and a pathologist's eye look similar turn out to be biologically very different," Dr. Carey said, adding that the tests were now strictly a research tool and were not done routinely in women with breast cancer.

Dr. Larry Norton, a breast cancer expert at Memorial Sloan-Kettering Cancer Center in New York who was not part of the study, said the research was extremely well done and important. He said there was preliminary evidence from other studies that basal-like tumors were the most common kind found in Africa, and that understanding what caused them could help point the way toward better treatments and methods of prevention.

Dr. Olufunmilayo Olopade, director of the center for clinical cancer genetics at the University of Chicago, said she had found high rates of basal-like tumors in young women in Nigeria and Senegal, most of whom died. In many, the disease ran in their families.

The work has not yet been published, but Dr. Olopade said the message to black women, and to women of all races, was that if their mothers, sisters or daughters developed breast cancer at an early age, they needed to start screening for it well before age 40, to seek genetic counseling and to consider preventive drugs and perhaps preventive surgery if they proved to be at high risk.

Basal-like tumors tend to grow fast and spread quickly, and they are more likely than other types to be fatal. They are not fed by the hormone estrogen, and so cannot be treated or prevented with estrogen-blocking drugs like tamoxifen or raloxifene. Herceptin, another breast cancer drug, is also useless against these tumors. The tumors are not stimulated by the hormone progesterone, either. For that reason, cancer specialists call them "triple negative."

Standard chemotherapy does help, and women with basal-like tumors benefit more from it than women with other breast cancers. But even with treatment, those with basal-like tumors are less likely to survive.

Women with mutations in a gene called Brca1 tend to develop this kind of aggressive breast tumor. In the past, researchers thought Brca1 mutations did not occur in black women, but Dr. Olopade dismissed that notion as a myth, saying the mutations were found just as often in black women as in other populations.

She and Dr. Carey said other mutations, not yet discovered, might also predispose black women to the basal-like tumors.

Dr. Carey's research was based on stored tissue samples from 496 women who had breast cancer diagnoses from 1993 to 1996 and who were included in a project called the Carolina Breast Cancer Study. Their average age was 50, and 40 percent identified their race as African-American.

The researchers used new techniques of molecular biology to find patterns of gene activity in the cancer cells, to classify the tumors accordingly and then to sort the genetic subtypes by race, menopausal status, other tumor traits and survival.

"The same technology that identified the subtypes also tells us about the biology of the subtypes," Dr. Carey said. "Once you know what makes it tick, you can figure out how to stop the ticking. It's opened up a window on it."

The goal is to find particular molecules in a cell that drive proliferation or tumor survival, and to block them.

"If it looks like a particular cancer cell is dependent on a certain pathway to live or grow, and if you can shut it down preferentially in that cancer cell, you can stop it," Dr. Carey said.

Newer cancer drugs like herceptin and Gleevec, which is used for certain types of leukemia and gastrointestinal tumors, work in this so-called targeted fashion, and so does Tykerb, a new breast cancer drug described last weekend at a meeting of the American Society for Clinical Oncology. For certain cancers, targeted treatments are far more effective than standard chemotherapy, more of a buckshot approach.

Breast cancer experts hope to find better treatments than chemotherapy for many types of the cancer, and Dr. Carey said, "That's the challenge, getting away from chemo for this subtype."

The next step in the research is to look for risk factors for the basal-like subtype, in hopes of finding ways to prevent it, she said.

"There's a lot of smart people working very hard on this," Dr. Carey said. "I'm very optimistic."